

**GENE THERAPY FOR REGULATING  
SMOOTH MUSCLE TONE**

**Abstract of the Disclosure**

5           The present invention is directed towards a method of regulating  
smooth muscle tone, comprising the introduction, into smooth muscle cells of a  
subject, of a DNA sequence encoding a protein involved in the regulation of  
smooth muscle tone, and expression of the DNA sequence in a sufficient  
number of smooth muscle cells of the subject to regulate smooth muscle tone in  
10 the subject. Specifically, the invention provides methods of gene therapy for  
treating erectile dysfunction, bladder dysfunction, and other smooth muscle  
disorders. The present invention also provides recombinant viral and non-viral  
vectors comprising DNA encoding a protein involved in the regulation of  
smooth muscle tone. Further provided by the present invention is a smooth  
15 muscle cell which expresses a gene encoding a protein involved in the  
regulation of smooth muscle tone.